Advances in Model-Based Testing (A-MOST 2005): Requirements traceability in automated test generation: application to smart card software validation
F. Bouquet, E. Jaffuel, B. Legeard, F. Peureux, M. Utting
May 2005 **ACM SIGSOFT Software Engineering Notes , Proceedings of the first international workshop on Advances in model-based testing A-MOST '05**, Volume 30 Issue 4
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Full text available: pdf(685.74 KB) Additional Information: full citation, abstract, references, index terms

Automated test case and test driver generation from a formal model is becoming a more widely used practice in the smart card area. This innovative approach for validation testing makes it possible to ensure the functional coverage of the test suite and to automate the production of executable test scripts. This paper presents an approach to automatically produce the Traceability Matrix from requirements to test cases, as part of the test generation process. This approach is embedded in the LEIRI ...

Keywords: formal model, model-based testing, requirements traceability

5 Specifications a key to effective software development
P. C. Belford, A. F. Bond, D. G. Henderson, L. S. Sellers
October 1976 **Proceedings of the 2nd international conference on Software engineering**
Publisher: IEEE Computer Society Press
Full text available: pdf(981.32 KB) Additional Information: full citation, abstract, references, citings, index terms

Specifications provide the fundamental link to make the transition between the concept and definition phases of the system development cycle. Straightforward, unambiguous specifications are required to ensure successful results and at the same time minimize cost overruns during the development cycle. Many of the problems currently being addressed by software engineers have their origins in the frequently inconsistent and incomplete nature of system specifications. The U.S. Army B ...

Keywords: Decomposition, Requirements verification, Software engineering, Specification verification, Verification

6 Design and implementation of a requirements clustering analyzer for software system decomposition
Alan T. Yaung
March 1992 **Proceedings of the 1992 ACM/SIGAPP symposium on Applied computing: technological challenges of the 1990's**
Publisher: ACM Press
Full text available: pdf(734.82 KB) Additional Information: full citation, references, index terms

7 DB-4 (databases): similarity search: Distance-function design and fusion for sequence data
Yi Wu, Edward Y. Chang
November 2004 **Proceedings of the thirteenth ACM international conference on Information and knowledge management CIKM '04**
Publisher: ACM Press
Full text available: pdf(183.71 KB) Additional Information: full citation, abstract, references, index terms

Sequence-data mining plays a key role in many scientific studies and real-world applications such as bioinformatics, data stream, and sensor networks, where sequence data are processed and their semantics interpreted. In this paper we address two relevant issues: sequence-data representation, and representation-to-semantics mapping. For representation, since the best one is dependent upon the application being used and even

the type of query, we propose representing sequence data in multiple ...

Keywords: multiple-view representation, representation-to-semantics mapping, sequence-data mining, sequence-data representation, super-kernel fusion

8 Memory requirement for universal routing schemes

Pierre Fraigniaud, Cyril Gavoille

August 1995 **Proceedings of the fourteenth annual ACM symposium on Principles of distributed computing**

Publisher: ACM Press

Full text available: pdf(767.19 KB) Additional Information: full citation, references, citings, index terms

9 Software reliability apportionment using the analytic hierarchy process

K. K. Aggarwal, Yogesh Singh

December 1995 **ACM SIGSOFT Software Engineering Notes**, Volume 20 Issue 5

Publisher: ACM Press

Full text available: pdf(551.76 KB) Additional Information: full citation, abstract, index terms

In this paper, we present a software reliability apportionment scheme using analytic hierarchy process which attempts to answer the question " how reliable should each system module be ? ". Reliability requirements determined by integrating user's view, software manager's view and programmer's view would be more realistic, consistent and economically attainable than those obtained through subjective or haphazard method. This model determines reliability goals at the planning and design stages of ...

10 The automatic generation and execution of function test plans for electronic switching systems

Jonathan Bauer, Susan Faasse, Alan Finger, William Goodhue

January 1978 **ACM SIGSOFT Software Engineering Notes , ACM SIGMETRICS Performance Evaluation Review , Proceedings of the software quality assurance workshop on Functional and performance issues**, Volume 3 , 7 Issue 5 , 3-4

Publisher: ACM Press

Full text available: pdf(742.11 KB) Additional Information: full citation, abstract, references, citings, index terms

A three phase functional testing methodology is described for use in the development cycle of electronic switching systems. The methodology centers on a directed graph model of the system and provides for the checking of system requirements, the generation of functional tests and the automatic execution of these tests.

11 Multiresolution green's function methods for interactive simulation of large-scale elastostatic objects

Doug L. James, Dinesh K. Pai

January 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 1

Publisher: ACM Press

Full text available: pdf(8.69 MB) Additional Information: full citation, abstract, references, citings, index terms

We present a framework for low-latency interactive simulation of linear elastostatic models, and other systems arising from linear elliptic partial differential equations, which makes it feasible to interactively simulate large-scale physical models. The deformation of the models is described using precomputed Green's functions (GFs), and runtime boundary value problems (BVPs) are solved using existing Capacitance Matrix Algorithms (CMAs). Multiresolution techniques are introduced to control the ...

Keywords: Capacitance matrix, Green's function, deformation, elastostatic, fast summation, force feedback, interactive real-time applications, lifting scheme, real-time,

updating, wavelets

12 Training requirements for computer programmers in relation to system development phases
Perry E. Rosove
June 1969 **Proceedings of the seventh annual conference on SIGCPR**
Publisher: ACM Press
Full text available: pdf(766.40 KB) Additional Information: full citation, abstract, references, index terms

The purpose of this paper is to suggest that the training of computer programmers might be improved by developing training requirements and course curricula through analyses of the attributes of typical information system development phases. This approach differs from, but would complement, the existing method of deriving training requirements from analyses of the tasks and skills associated with job categories.

13 Integrating network optimization capabilities into a high-level modeling language
Stavros A. Zenios
June 1990 **ACM Transactions on Mathematical Software (TOMS)**, Volume 16 Issue 2
Publisher: ACM Press
Full text available: pdf(2.08 MB) Additional Information: full citation, abstract, references, index terms, review

Research in network optimization has reached the stage where large-scale problems-linear or non-linear, pure or generalized-are solved very efficiently with minimal computing resources. Representing such problems for solution on the computer, however, remains a rather cumbersome task. Taking advantage of developments in high-level modeling languages, we design and implement integrated systems to facilitate the representation and solution of network problems. Such systems integrate the flexi ...

14 Session 3B: On the complexity of matrix product
Ran Raz
May 2002 **Proceedings of the thiry-fourth annual ACM symposium on Theory of computing**
Publisher: ACM Press
Full text available: pdf(201.86 KB) Additional Information: full citation, abstract, references, citings, index terms

We prove a lower bound of &OHgr;(m^2 log m) for the size of any arithmetic circuit for the product of two matrices, over the real or complex numbers, as long as the circuit doesn't use products with field elements of absolute value larger than 1 (where mxm is the size of each matrix). That is, our lower bound is super-linear in the number of inputs and is applied for circuits that use addition gates, product gates and products with field elements of absolute ...

15 Requirements-driven software test: a process-oriented approach
Muthu Ramachandran
July 1996 **ACM SIGSOFT Software Engineering Notes**, Volume 21 Issue 4
Publisher: ACM Press
Full text available: pdf(507.96 KB) Additional Information: full citation, abstract, index terms

Testing is essential for proving the quality of all products. It is expensive and hard to test interactive multimedia systems. This paper proposes a model for the test process, and investigates the possibility of deriving test cases from system models and requirement analysis techniques such as requirements definition and specification. We believe this will allow early detection of errors thereby reducing the cost for testing. These test cases can also be used as guidelines on design for testabi ...

16 Scheduling and mapping: software pipelining in the presence of structural hazards
Erik R. Altman, R. Govindarajan, Guang R. Gao

June 1995 **ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 1995 conference on Programming language design and implementation PLDI '95**, Volume 30 Issue 6
Publisher: ACM Press

Full text available: pdf(1.25 MB) Additional Information: full citation, abstract, references, citings, index terms

Recently, software pipelining methods based on an ILP (Integer Linear Programming) framework have been successfully applied to derive rate-optimal schedules for architectures involving clean pipelines - pipelines without structural hazards. The problem for architectures beyond such clean pipelines remains open. One challenge is how, under a unified ILP framework, to simultaneously represent resource constraints for unclean pipelines, and the assignment or mapping of operations from a loop t ...

17 Quantitative evaluation of software quality
B. W. Boehm, J. R. Brown, M. Lipow
October 1976 **Proceedings of the 2nd international conference on Software engineering**
Publisher: IEEE Computer Society Press

Full text available: pdf(1.44 MB) Additional Information: full citation, abstract, references, citings, index terms

The study reported in this paper establishes a conceptual framework and some key initial results in the analysis of the characteristics of software quality. Its main results and conclusions are: • Explicit attention to characteristics of software quality can lead to significant savings in software life-cycle costs. • The current software state-of-the-art imposes specific limitations on our ability to automatically and quantitatively evaluate the quality of so ...

Keywords: Management by objectives, Quality assurance, Quality characteristics, Quality metrics, Software engineering, Software measurement and evaluation, Software quality, Software reliability, Software standards, Testing

18 Switch module design with application to two-dimensional segmentation design
Kai Zhu, D. F. Wong, Yao-Wen Chang
November 1993 **Proceedings of the 1993 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Computer Society Press
Full text available: pdf(598.27 KB) Additional Information: full citation, references, citings

19 Effective bandwidths for a class of non Markovian fluid sources
Kimon Kontovasilis, Nikolas Mitrou
October 1997 **ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM '97 conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '97**, Volume 27 Issue 4
Publisher: ACM Press
Full text available: pdf(2.12 MB) Additional Information: full citation, abstract, references, index terms

This paper proves the existence of and explicitly determines effective bandwidths for a class of non Markovian fluid source models, featuring multiple data-transmission rates and arbitrary distributions for the times these rates are sustained. The investigated models cover considerably more traffic profiles than the usual Markovian counterparts and have reduced state-space requirements. The effective bandwidth, as a function of the asymptotic loss probability decay rate, is implicitly derivable ...

20 Memory requirement for routing in distributed networks
Cyril Gavoille, Stéphane Pérennès
May 1996 **Proceedings of the fifteenth annual ACM symposium on Principles of**